

Patent claims

1. A method for reducing the energy costs in an industrially operated facility (1, 110, 111),
5 characterized in that at least one of the energy flows (8) of the facility, from its purchase (6), its conversion in at least one secondary process (3), its consumption in at least one core process (2) as far as its discharge (7) from the facility,
10 is considered as a whole, taking operational process sequences (4) into account, and potential cost reductions are determined.
2. The method as claimed in claim 1, wherein, in the
15 holistic consideration and determination of the potential cost reductions, information and data-processing systems (5) supporting the at least one secondary process (3) and the at least one core process (2) are taken into account.
- 20 3. The method as claimed in one of the preceding claims, with a standardized procedure (10) in the holistic consideration and determination of the potential cost reductions.
- 25 4. The method as claimed in claim 3, wherein the standardized procedure (10) comprises a number of standardized steps (11-14).
- 30 5. The method as claimed in claim 4, wherein, in a first step (11), with the aid of a standardized diagnostic method (20), the operational process sequences (4) are analyzed, weak points are identified and measures for improvement are
35 elaborated.
6. Method as claimed in claim 5, wherein the standardized diagnostic method (20) comprises a

computer-aided interview of employees of the facility,
in particular from the upper or middle management.

- 5 7. The method as claimed in claim 5 and/or 6, wherein
the operational process sequences (4) are
diagnosed by using predefined, energy-relevant
questions (21-27) which are independent of the
sector of industry.
- 10 8. The method as claimed in claims 5, wherein, in a
further step (12), with the aid of a standardized
analysis method (30), the at least one core
process (2), the at least one secondary process
15 (3), the purchase (6) and the discharge (7) as
well as the information and data-processing
systems (5) are analyzed, weak points are
identified and measures for improvement are
proposed.
- 20 9. The method as claimed in claim 8, wherein, in the
context of the standardized analysis methods (30),
standardized concepts, standardized calculation
models and standardized process analyses are used
to determine potentials for reducing the energy
25 costs.
- 30 10. The method as claimed in claim 8 and/or 9, wherein
the analysis of the at least one core process (2)
is carried out with the aid of predefined
standardized analysis packages (41-45) which are
independent of the sector of industry.
- 35 11. The method as claimed in claim 8 and/or 9, wherein
the analysis of the at least one secondary process
(3) is carried out with the aid of predefined
standardized analysis packages (51-56) which are
independent of the sector of industry.

12. The method as claimed in claim 8 and/or 9, wherein the analysis of the supporting information and data-processing systems (5) and/or of the purchase (6) and/or of the discharge (7) is carried out with the aid of predefined standardized analysis packages (61-65).
13. The method as claimed in claim 8 and/or 9, wherein country-specific regulations (23), in particular standards, and/or subsidies and/or financial aids are taken into account.
14. The method as claimed in claim 8, wherein detailed planning of the measures for improvement is carried out in a further step (13).
15. The method as claimed in claim 14, wherein a business model for implementing the measures for improvement, aimed specifically at the industrially operated facility (1), is developed and implemented.
16. The method as claimed in claim 14, wherein implementation of the measures for improvement is carried out in a further step (14).
17. The method as claimed in one of claims 5 to 7, wherein the first step (11) is repeated at a time interval, in particular at the latest after a year.
18. The method as claimed in one of the preceding claims, in which the holistic consideration and determination of the potential cost reductions is carried out, at least to some extent, by an energy service provider (122).

19. The method as claimed in one of the preceding claims, in which the industrially operated facility (1) is a paper and pulp production facility, a steelworks, a hospital, an airport, a large municipal authority, a shipyard, a hotel, a chemical plant, a cement factory, an underground system, a railway system, a container terminal or a drilling rig.
20. The method as claimed in claim 3, in which the standardized procedure (10) is predefined by a method handbook (100).
21. The method as claimed in claim 7, in which the questions (21-27) are stored in a knowledge database (101).
22. The method as claimed in at least one of claims 10 to 12, in which the analysis packages (41-45, 51-56, 61-65) are stored in a knowledge database (101).
23. The method as claimed in claim 21 or 22, in which the facility (1, 110, 111) can make access to the knowledge database (101), in particular via an energy service provider.
24. The method as claimed in claim 21 and/or 22, in which, by using the experience gained in the facility (1, 110, 111), optimization of the questions (21-27) stored in the knowledge database (101) and/or of the analysis packages (41-45, 51-56, 61-65) stored in the knowledge database is carried out.
25. A system for implementing the method for reducing the energy costs in an industrially operated

facility (1, 110, 111) as claimed in one of the preceding claims, comprising:

- 5 - a method handbook (100) for predefining a standardized procedure (10) for a holistic consideration of at least one of the energy flows (8) of the facility, from its purchase (6), its conversion in at least one secondary process (3), its consumption in at least one core process (2) as far as its discharge (7) from the facility, while taking account of operational process sequences in order to determine potential cost reductions,
- 10 - a knowledge database (101) having experience obtained globally or regionally in connection with the reduction of energy costs.
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26. The system as claimed in claim 25, in which the method handbook (100) is made available to the facility (1, 110, 111) via a network (120).

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27. The system as claimed in claim 25, wherein the knowledge database (101) comprises predefined energy-relevant questions (21-27) which are independent of the sector of industry for a standardized diagnostic method (20) for the analysis of the operational process sequences (4).

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28. The system as claimed in one of claims 25 to 27, wherein the knowledge database (101) comprises predefined standardized analysis packages (41-45) which are independent of the sector of industry for a standardized analysis method (30) for the analysis of the at least one core process (2).

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35 29. The system as claimed in one of claims 25 to 28, wherein the knowledge database (101) comprises predefined standardized analysis packages (51-56) which are independent of the sector of industry

for a standardized analysis method (30) for the analysis of the at least one secondary process (3).

- 5 30. The system as claimed in one of claims 25 to 29, wherein the knowledge database (101) comprises predefined standardized analysis packages (61-65) for a standardized analysis method (30) for the analysis of the supporting information and data-processing systems (5) and/or the purchase (6) and/or the discharge (7).
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31. The system as claimed in one of claims 25 to 30, wherein the knowledge database (101) is made available to the facility (1, 110, 111) via a network, in particular via an energy service provider (122).
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32. The system as claimed in one of claims 25 to 31, in which experience (142) and results (143) gained in the facility (1, 110, 111) during the implementation of the method can be transmitted to the knowledge database (101).
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33. The system as claimed in claim 32, in which optimization of the knowledge database (101) is carried out by using the experience (142) and results (143).
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34. The system as claimed in one of claims 25 to 33, in which hardware and software tools (102) for supporting the standardized procedure (10) are provided.
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35. The system as claimed in claim 34, in which the tools (102) are made available to the facility (1, 110, 111) locally on site by an installation on site.
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36. The system as claimed in claim 34, in which the tools (102) are made available to the facility (1, 110, 111) locally on site via a network (120).